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XVI. *A Catalogue of the Immerfions and Emerfions of the Satellites of Jupiter, that will happen in the Year 1750, of which there are 173 of the Firft, 85 of the Second, 94 of the Third, and none of the Fourth, by reason of its great Latitude; in all 322. Computed to the Meridian of London from the Flamfteedian Tables: Corrected by James Hodgfon F. R. S. Mafter of the Royal Mathematical School in Chrift's-Hofpital.*

*Note, Thofe that are marked with an Aftcrifk are vifible at London.*

THE great Improvements made in the ufeful Sciences of Geography and Hydrography, by the Observations of the Eclipses of *Jupiter's* Satellites, are too well known to need any Account of them, or Encomium upon them. They were judged very proper for this Purpofe by *Galileus* himfelf, who firft difcovered them, and all the Aftronomers at that time, as being the moft certain, fure, and eafieft Method then known, and I may venture to fay even to this Time, for afcertaining the Difference of Longitudes between Places, how remote foever: And it is this that has encouraged Perfons to make conftant Observations of them: And that they may not neglect the frequent

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quent Opportunities that offer themselves for want of timely Notice, I formerly published in the *Philosophical Transactions*\* an annual Catalogue of all the Eclipses that would happen that Year, as I do now for the succeeding Year, and shall continue to do for the Time to come, if my Health will permit me: And if those Persons who shall make any Observations, will be so good as to communicate them to me, they will be gratefully received, as they will tend to discover the Errors of the Tables, which shall be my constant Endeavour to find out, so long as it shall please the divine Providence to enable me to do it.

ECLIPSES of the first Satellite of JUPITER.

Emerfions.				Emerfions.				Emerfions.			
D.	H.	M.	S.	D.	H.	M.	S.	D.	H.	M.	S.
JANUARY.				21	8	42	16*	8	1	29	26
				23	3	10	58	9	19	58	13
1	21	30	11	24	21	19	49	11	14	27	26
3	15	58	11	26	6	8	20*	13	8	56	45
5	10	26	13	28	10	36	57	15	3	26	1
7	4	54	32*	30	5	5	34*	16	21	55	13
8	23	23	7	31	23	34	19	18	16	24	25
10	17	51	43	FEBRUARY.				20	10	53	39
12	12	20	21					22	5	22	17*
14	6	48	38*					23	23	52	17
16	1	17	5	2	18	2	59	APRIL.			
17	19	45	28	4	12	31	50				
19	14	13	50	6	7	0	39*				

\* See N<sup>o</sup>. 449, in the Year 1738. and others in the preceding Years.

ECLIPSES of the first Satellite of JUPITER.

Immersion.				Immersion.				Immersion.			
D.	H.	M.	S.	D.	H.	M.	S.	D.	H.	M.	S.
APRIL.				JUNE.				8	10	2	43
25	2	13	23	1	6	10	22	10	4	31	8
26	20	42	15	3	0	38	33	11	22	59	40
28	15	10	54	4	19	6	44	13	17	28	12
30	9	39	33	6	13	34	56*	15	11	56	44*
				8	8	3	6	17	6	25	18
				10	2	31	17	19	0	53	53
				11	20	59	25	20	19	22	33
				13	15	27	38*	22	13	51	19
				15	9	55	57*	24	8	20	5
				17	4	24	13	26	2	48	51
				18	22	52	18	27	21	16	39
				20	17	20	31	29	5	46	26
				22	11	48	42*	31	10	15	17*
				24	6	16	54	AUGUST.			
				26	0	44	7	2	4	44	8
				27	19	13	25	3	23	11	38
				29	13	41	39*	5	17	40	38
				JULY.				7	12	9	38*
				1	8	9	56	9	6	38	39
				3	2	37	36	11	1	7	41
				4	21	6	56	12	19	36	44
				6	15	33	20*	14	14	5	53*
				C c c 2				16	8	35	2

ECLIPSES of the first Satellite of JUPITER.

Immersion.				Immersion.				Emersion.			
D.	H.	M.	S.	D.	H.	M.	S.	D.	H.	M.	S.
18	3	4	14	29	14	44	45	4	2	29	4
19	21	33	26					5	20	57	35
21	16	2	58	OCTOBER.				7	15	26	1*
23	10	31	55*	1	9	13	58*	9	9	54	24*
25	5	0	54	3	4	42	52	11	4	22	45
26	23	30	56	4	22	12	3	12	22	24	6
28	17	59	42	6	16	41	4*	14	17	19	25*
30	12	29	3*	8	13	18	8*	16	11	47	43*
				10	5	39	2*	18	6	16	1*
SEPTEMBER.				12	0	8	0	20	0	44	11
1	6	58	24					21	19	12	21*
3	1	27	47	Emersion.				23	13	40	35*
4	19	57	4	13	20	45	9	25	8	8	47*
6	14	27	40*	15	15	13	59*	27	2	36	58
8	8	55	32*	17	9	42	51*	28	21	4	59
10	3	24	38	19	4	11	39	30	15	33	1*
11	21	53	22	20	22	40	26				
13	16	22	17*	22	17	9	13*	DECEMBER.			
15	10	51	21*	24	11	37	53*	2	10	1	37*
17	5	20	41	26	6	6	33*	4	4	58	59*
18	23	49	52	28	0	35	12	5	22	57	0
20	18	19	54	29	19	3	46	7	17	24	58*
22	12	48	13*	31	13	22	1*	9	11	52	58*
24	7	17	21*					11	5	20	55*
26	1	46	29	NOVEMBER.				13	0	49	18
27	20	15	36	2	8	0	35*	14	19	16	57*

ECLIPSES of the first Satellite of JUPITER.

Emerfions.				Emerfions.				Emerfions.			
D.	H.	M.	S.	D.	H.	M.	S.	D.	H.	M.	S.
16	13	45	0*	21	21	9	10	27	4	33	32*
18	8	13	3*	23	15	37	15*	28	23	1	41
20	2	41	9	25	10	5	24*	30	17	29	44*

ECLIPSES of the second Satellite of JUPITER.

Emerfions.				Emerfions.				Immerfions.			
D.	H.	M.	S.	D.	H.	M.	S.	D.	H.	M.	S.
JANUARY.				15	22	43	8	15	16	59	43*
				19	12	1	36	19	5	17	23
4	7	4	13*	23	1	22	2	22	18	34	48
7	20	21	36	☉	4	8		26	8	52	26
11	9	39	41	Immerfions.				29	23	9	36
15	22	57	19	APRIL.				JUNE.			
18	26	15	13					2	11	27	0
22	1	33	4	24	9	11	17	6	0	44	27
25	14	51	24	27	22	29	24	9	14	1	41*
29	4	9	33*	MAY.				13	3	54	57
FEBRUARY.								16	16	36	10*
1	17	28	3	1	11	47	54	20	5	53	40
5	6	46	29*	5	1	5	55	23	19	10	55
8	20	4	57	8	14	23	58	27	8	28	19*
12	9	24	50	12	3	41	45	30	21	45	48
								JULY.			

ECLIPSES of the *second* Satellite of JUPITER.

Immersion.				Immersion.				Emersion.			
D.	H.	M.	S.	D.	H.	M.	S.	D.	H.	M.	S.
JULY.				6	10	29	4*	5	23	30	21
				10	2	58	18	9	12	48	34*
4	11	3	21	13	13	18	8*	13	2	6	15
8	0	20	33	17	2	36	28	16	15	33	40*
11	13	38	46*	20	15	55	57*	20	4	40	52
15	2	56	55	24	5	16	2	23	17	58	3*
18	16	14	40	27	18	34	9	27	7	15	22*
22	5	22	54					30	20	32	11
25	18	51	15	OCTOBER.				DECEMBER.			
29	8	9	39*	1	7	53	17*				
AUGUST.				4	20	52	20				
				8	10	31	19*				
1	21	28	13	11	23	50	14	4	9	38	48*
5	10	46	52*	Emersion.				7	23	5	35
9	0	6	31					11	12	22	26*
12	13	25	20*					15	1	39	23
16	2	43	20	15	15	41	38*	18	14	56	15*
19	16	2	27*	19	5	0	12	22	4	13	19
23		21	42	22	18	18	42*	25	16	30	23*
26	5	40	56	26	7	36	58*	29	6	47	30*
30	8	0	13*	NOVEMBER.							
SEPTEMBER.											
1	21	19	25	2	10	13	28*				

JANUARY.

## ECLIPSES of the third Satellite of JUPITER.

D. H. M. S.					D. H. M. S.				
JANUARY.									
3	15	59	8	I	19	21	18	22	I
	18	43	40	E	27	1	35	16	I
10	19	59	35	I		3	11	18	E
	22	43	5	E	JUNE.				
17	23	58	38	I	3	4	42	45	I
18	2	42	6	E		7	7	57	E
25	6	42	35	E *	10	8	39	52	I
FEBRUARY.						11	4	38	E
1	10	42	49	E	17	12	38	38	I *
8	19	43	54	E		15	2	58	E *
15	18	43	26	E	24	16	34	27	I
22	22	49	20	E		18	58	11	E
APRIL.					JULY.				
21	4	58	50	I	1	20	31	55	I
28	8	50	37	I		22	55	21	E
MAY.					9	1	30	11	I
5	12	49	50	I *		3	52	23	E
12	16	48	53	I	16	4	28	18	I
						6	50	16	E
					23	8	28	22	I *
						10	48	6	E *
					AUGUST.				



ECLIPSES of the third Satellite of JUPITER.

D. H. M. S.					D. H. M. S.				
AUGUST.					24	15	36	29	E *
6	16	50	33	I *	31	19	37	27	E
	19	8	50	E	NOVEMBER.				
13	20	52	57	I	7	23	37	36	E
	23	10	59	E	15	3	37	30	E
21	0	56	33	I	22	5	22	40	I *
	3	13	5	E		7	34	22	E
28	4	59	26	I	29	9	24	2	I *
SEPTEMBER.						11	35	22	E *
4	8	53	10	I *	DECEMBER.				
11	13	36	30	I *	6	13	22	28	I *
18	17	9	37	I *		15	33	24	E *
25	21	13	2	I	13	17	20	18	I *
OCTOBER.						19	31	2	E
3	1	16	18	I	20	21	17	21	I
10	5	19	12	I *		23	27	53	E
17	11	29	55	E *	28	1	16	50	I
						3	27	10	E

Now, inasmuch as, in the Beginning of this Year, the Latitude of the fourth Satellite is greater than the Breadth of the Shadow of *Jupiter*, the Satellite will pass wide of it, and there will be no Eclipse

Eclipse of it till the Middle of *June* in the Year 1752.

It is to be observed, that, for about a Month before, and a Month after the Conjunction of *Jupiter* with the Sun, by reason of the Proximity of *Jupiter* to the Sun, the Eclipses cannot be observed. And this is the Reason that no Notice has been taken of them in the Catalogue between the 24<sup>th</sup> of *February* and the 25<sup>th</sup> of *April* following.

The Times here set down are according to the astronomical Way of reckoning, which supposes the Day to commence at the Noon of each Day, or when the Sun is upon the Meridian; and counting the Time on in a successive Order, without the Distinction of Morning and Afternoon, till the Sun returns to the Meridian again the next Day at Noon. Thus, for Example, in the preceding Catalogue, the first Emerision of the first Satellite is said to happen *January* 1. at 21 Hours 21 Minutes and 11 Seconds; that is, according to the Civil Way of reckoning, on *Jan.* 2. at 30 Minutes 11 Seconds after 9 in the Morning.